VSP 5360

User Manual

- Manual #: RGB-RD-UM-V5360 E001
- Revision: V1.1
- This User Manual Applies to VSP 5360 Series!

VSP 5360·User Manual

Thank you for choosing our products!
In order to allow you to learn how to use the video processor quickly, we bring you the detailed user Manual. You can read the introduction and directions before using the video processor, please read all the information we provide carefully to use our products correctly.

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Operators Safety Summary

The general safety information in this summary is for operating personnel.

Do Not Remove Covers or Panels

There are no user-serviceable parts within the unit. Removal of the top cover will expose dangerous voltages. To avoid personal injury, do not remove the top cover. Do not operate the unit without the cover installed.

Power Source

This product is intended to operate from a power source that will not apply more than 230 volts rms between the supply conductors or between both supply conductor and ground. A protective ground connection by way of grounding conductor in the power cord is essential for safe operation.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Use the Proper Power Cord

Use only the power cord and connector specified for your product. Use only a power cord that is in good condition. Refer cord and connector changes to qualified service personnel.

Use the Proper Fuse

To avoid fire hazard, use only the fuse having identical type, voltage rating, and current rating characteristics. Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Terms in This Manual and Equipment Marking

WARNING

Highlight an operating procedure, practice, condition, statement, etc, which, if not strictly observed, could result in injury or death of personnel.

Note

Highlights an essential operating procedure, condition or statement.

CAUTION

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Amendment Records

The table below lists the changes to the Video Processor User Manual.

Format	Time	ECO#	Description	Principal
V1.0	2013-12-17	0000#	Release	Vira
V1.1	2014-03-07	0000#	1. Update the front panel; 2. Update the menu.	Vira

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1. Brief Introduction

This chapter is designed to introduce you to the VSP 5360 User Manual. Areas to be covered are:

- Chapter Structure
- How to Use The Manual
- Terms and Definitions
- System Overview
- Application Questions

Chapter Structure

The following chapters provide instructions for all aspects of VSP 5360 operations.

Chapter 1 Brief Introduction

Chapter 2 Hardware Orientation

Chapter 3 Hardware Installation

Chapter 4 Menu Orientation

Chapter 5 System Setup and Operations

Chapter 6 Common Questions and Solution

Appendix A Specification

Appendix B Contact Information

Appendix C Software Upgrade

How to Use the Manual

Followings are important tips for streamlining your use of this User Manual in its electronic “PDF” form.

Navigation

Use Acrobat Reader’s “bookmarks” to navigate to the desired location. All chapter files have the same bookmark structure for instant navigation to any section. Please note:

- Extensive hyperlinks are provided within the chapters.
- Use Acrobat’s “**Go to Previous View**” and “**Return to next View**” buttons to trace your complete navigational path.

- Use the “**Previous Page**” and “**Next Page**” buttons to go to the previous or next page within a file.
- Use Acrobat’s extensive search capabilities, such as the “**Find**” tool and “**Search Index**” tool to perform comprehensive searches as required.

Table of Contents and Index

Use the Table of Contents bookmarks to navigate a desired topic. Click any item to instantly jump to that section of the guide. You can also use the **Index** to jump to specific topics within a chapter. Each page number in the **Index** is a hyperlink.

General Operations

To ensure trouble-free operation, please follow all procedures as listed below:

- For detailed installation instructions, refer to chapter 3 “Hardware Installation” on page 35.
- For system setup and operations, refer to Chapter 5, “System Setup and Operations” on page 49.

Should you have any questions regarding the installation or operation of VSP 5360, please consult with the factory. Refer to Appendix B “Contact information” on page 70.

Term and Definitions

The following terms and definitions are used throughout this guide.

- **“ASCII”:** American Standard for Information Interchange. The standard code consisting of 7-bit coded characters (8 bits including parity check) used to exchange information between data processing systems, data communication systems, and associated equipment. The ASCII set contains control characters and graphic characters.
- **“Aspect ratio”:** The relationship of the horizontal dimension to the vertical dimension of an image. In viewing screens, standard TV is 4:3, or 1.33:1; HDTV is 16:9, or 1.78:1. Sometimes the “:1” is implicit, making TV = 1.33 and HDTV = 1.78.
- **“AV”:** Audio visual or audio video.
- A **“Background”** is an unscaled source, typically originating from a computer. A background source appears at the system’s lowest priority — visually in back of all other sources.
- **“Baudrate”：** Named of J.M.E. Baudot, the inventor of the Baudot telegraph code. The number of the electrical oscillations per second, called baud rate. Related to, but not the same as, transfer rate in bits per second (bps).
- **“Blackburst”:** The video waveform without the video elements. It includes the vertical sync, horizontal sync, and the chroma burst information. Blackburst is used to synchronize video equipment to align the video output. One signal is normally used to set up an entire video system or facility. Sometimes it is called House sync.
- **“BNC”:** Bayonet Neill-Concelman. A cable connector used extensively in television and named for its inventors. A cylindrical bayonet connector that operates with a twist-locking motion. To make the connection, align the two curved grooves in the collar of the male connector with the two projections on the outside of the female collar, push, and twist. This allows the connector to lock into place without tools.
- **“Brightness”:** Usually refers to the amount or intensity of video light produced on a screen without regard to color. Sometimes called “black level.
- “**CAT 5**”**:** Category 5. Describes the network cabling standard that consists of four unshielded twisted pairs of copper wire terminated by RJ-45 connectors. CAT 5 cabling supports data rates up to 100 Mbps. CAT 5 is based on the EIA/TIA 568 Commercial Building Telecommunications Wiring Standard.
- **“Color bars”:** A standard test pattern of several basic colors (white, yellow, cyan, green, magenta, red, blue, and black) as a reference for system alignment and testing. In NTSC video, the most commonly

1. Brief Introduction

Terms and Definitions

- Used color bars are the SMPTE standard color bars. In PAL video, the most commonly used color bars are eight full field bars. In the computer, the most commonly used color bars are two rows of reversed color bars.
- **“Color burst”:** In color TV systems, a burst of sub carrier frequency located on the back porch of the composite video signal. This serves as a color synchronizing signal to establish a frequency and phase reference for the chroma signal. Color burst is 3.58 MHz for NTSC and 4.43 MHz for PAL.
- **“Color temperature”:** The color quality, expressed in degrees Kelvin (K), of a light source. The higher the color temperature, the bluer the light. The lower the temperature, the redder the light. Benchmark color temperature for the A/V industry includes 5000°K, 6500°K, and 9000°K.
- **“Contrast ratio”:** The radio of the high light output level divided by the low light output level. In theory, the contrast radio of the television system should be at least 100:1, if not 300:1. In reality, there are several limitations. In the CRT, light from adjacent elements contaminate the area of each element. Room ambient light will contaminate the light emitted from the CRT. Well-controlled viewing conditions should yield a practical contrast ratio of 30:1 to 50:1.
- **“DVI”:** Digital Visual Interface. The digital video connectivity standard that was developed by DDWG (Digital Display Work Group). This connection standard offers two different connectors: one with 24 pins that handles digital video signals only, and one with 29 pins that handles both digital and analog video.
- **“EDID”:** Extended Display Identification Data – EDID is a data structure used to communicate video display information, including native resolution and vertical interval refresh rate requirements, to a source device. The source device will then output the optimal video format for the display based on the provided EDID data, ensuring proper video image quality. This communication takes place over the DDC – Display Data Channel.
- **“Ethernet”:** A Local Area Network (LAN) standard officially known as IEEE 802.3. Ethernet and other LAN technologies are used for interconnecting computers, printers, workstations, terminals, servers, etc. within the same building or campus. Ethernet operates over twisted pair and over coaxial cable at speeds starting at 10Mbps. For LAN interconnectivity, Ethernet is physical link and data link protocol reflecting the two lowest layers of the OSI Reference Model.
- **“Frame”:** In interlaced video, a frame is one complete picture. A video frame is made up of two fields, or two sets of interlaced lines. In a film, a frame is one still picture of a series that makes up a motion picture.

1. Brief Introduction

Terms and Definitions

- **“Gamma”:** The light output of a CRT is not linear with respect to the voltage input. The difference between what you should have and what is actually output is known as gamma.
- **“HDMI” - High – Definition Multimedia Interface:** An interface used primarily in consumer electronics for the transmission of uncompressed high definition video, up to 8 channels of audio, and control signals, over a single cable. HDMI is the de facto standard for HDTV displays, Blu-ray Disc players, and other HDTV electronics. Introduced in 2003, the HDMI specification has gone through several revisions.
- **“HDSDI”:** The high-definition version of SDI specified in SMPTE-292M. This signal standard transmits audio and video with 10 bit depth and 4:2:2 color quantization over a single coaxial cable with a data rate of 1.485 Gbit/second. Multiple video resolutions exist including progressive 1280x720 and interlaced 1920x1080 resolutions. Up to 32 audio signals are carried in the ancillary data.
- **“JPEG” (Joint photographic Expects Group):** Commonly used method of loss compression for photographic images using a discreet cosine transfer function. The degree of compression can be adjusted, allowing a selectable tradeoff between storage size and image quality. JPEG typically achieves 10:1 compression with little perceptible loss in image quality. Produces blocking artifacts.
- **“MPEG”:** Motion Picture Expect Group. A standard committee under the auspices of the International Standards Organization working on algorithm standards that allows digital compression, storage and transmission of moving image information such as motion video, CD-quality audio, and control data at CD-ROM bandwidth. The MPEG algorithm provides inter-frame compression of video images and can have an effective compression rate of 100:1 to 200:1.
- **“NTSC”:** The color video standard used in North America and some other parts of the world created by the National Television Standards Committee in the 1950s. A color signal must be compatible with black-and-white TV sets. NTSC utilizes an interlaced video signals, 525 lines of resolution with a refresh rate of 60 fields per second (60 Hz). Each frame is comprised of two fields of 262.5 lines each, running at an effective rate of 30 frames per second.
- **“PAL”:** Phase Alternate Line. A television standard in which the phase of the color carrier is alternated from line to line. It takes four full pictures (8 fields) for the color-to-horizontal phase relationship to return to the reference point. This alternation helps cancel out phase errors. For this reason, the hue control is not needed on a PAL TV set. PAL, in many transmission forms, is widely used in Western Europe, Australia, Africa, the Middle East, and Micronesia. PAL uses 625-line,

50-filed (25 fps) composite color transmission system.

- **“Operator”:** Refers to the person who uses the system.
- **“PIP”:** Picture-in-Picture. A small picture within a larger picture created by scaling down one of the images to make it smaller. Each picture requires a separate video source such as a camera, VCR, or computer. Other forms of PIP displays include Picture-by-Picture (PBP) and Picture-with-Picture (PWP), which are commonly used with 16:9 aspect display devices. PBP and PWP image formats require a separate scaler for each video window.
- **“Polarity”:** The positive and negative orientation of a signal. Polarity usually refers to the direction or a level with respect to a reference (e.g. positive sync polarity means that sync occurs when the signal is going in the positive direction).
- **“RJ-45”:** Registered Jack-45. A connector similar to a telephone connector that holds up to eight wires used for connecting Ethernet devices.
- “**RS-232”:** An Electronic Industries Association (EIA) serial digital interface standard specifying the characteristics of the communication path between two devices using either DB-9 or DB-25 connectors. This standard is used for relatively short-range communication and does not specify balanced control lines. RS-232 is a serial control standard with a set number of conductors, data rate, word length, and type of connector to be used. The standard specifies component connection standards with regard to the computer interface. It is also called RS-232-C, which is the third version of the RS-232 standard, and is functionally identical to the CCITT V.24 standard.
- **“Saturation”:** Chroma, chroma gain. The intensity of the color, or the extent to which a given color in any image is free from white. The less white in a color, the truer the color or the greater its saturation. On a display device, the color control adjusts the saturation. Not to be confused with the brightness, saturation is the amount of pigment in a color, and not the intensity. Low saturation is like adding white to the color. For example, a low-saturated red looks pink.
- **“Scaling”:** A conversion of a video or computer graphic signal from a starting resolution to a new resolution. Scaling from one resolution to another is typically done to optimize the signal for input to an image processor, transmission path or to improve its quality when presented on a particular display.
- **“SDI”:** Serial Digital Interface. The standard based on a 270 Mbps transfer rate. This is a 10-bit, scrambled, polarity independent interface with common scrambling for both component ITU-R 601 and composite digital video and four channels of (embedded) digital audio.
- **“Seamless Switching”:** A feature found on many Extron video

switchers. This feature causes the switcher to wait until the vertical interval to switch. This avoids a glitch (temporary scrambling) which normally is seen when switching between sources.

- **“SMPTE”:** Society of Motion Picture and Television Engineers. A global organization, based in the United States that sets standards for base band visual communications. This includes film as well as video and television standards.
- **“S-Video”:** A composite video signal separated into the luma (“Y” is for luma, or black and white information; brightness) and the chroma (“C” is an abbreviation for chroma, or color information).
- **“Sync”:** Synchronization. In video, sync is a means of controlling the timing of an event with respect to other events. This is accomplished with timing pulses to insure that each step in a process occurs at the correct time. For example, horizontal sync determines exactly when to begin each horizontal scan line. Vertical sync determines when the image is to be refreshed to start a new field or frame. There are many other types of sync in video system. (Also known as “sync signal” or “sync pulse.”)
- **“TCP/IP”:** Transmission Control Protocol/Internet Protocol. The communication protocol of the Internet. Computers and devices with direct access to the Internet are provided with a copy of the TCP/IP program to allow them to send and receive information in an understandable form.
- **“USB”:** Universal Serial Bus. USB was developed by seven PC and telecom industry leaders (Compaq, DEC, IBM, Intel, Microsoft, NEC, and Northern Telecom). The goal was easy plug-and-play expansion outside the box, requiring no additional circuit cards. Up to 127 external computer devices may be added through a USB hub, which may be conveniently located in a keyboard or monitor. USB devices can be attached or detached without removing computer power. The number of devices being designed for USB continues to grow, from keyboards, mice, and printers to scanners, digital cameras, and ZIP drives.
- **“VESA”:** Video Electronics Standards Association. A nonprofit number organization dedicated to facilitating and promoting personal computer graphics through improved standards for the benefit of the end-user. www.vesa.org
- **“VGA”:** Video Graphics Array. Introduced by IBM in 1987, VGA is an analog signal with TTL level separate horizontal and vertical sync. The video outputs to a 15-pin HD connector and has a horizontal scan frequency of 31.5 kHz and vertical frequency of 70 Hz (Mode 1, 2) and 60 Hz (Mode 3). The signal is non-interlaced in modes 1, 2, and 3 and interlaced when using the 8514/A card (35.5 kHz, 86 Hz) in mode 4. It

has a pixel by line resolution of 640×480 with a color palette of 16 bits and 256,000 colors.

- **“YCrCb”:** Used to describe the color space for interlaced component video.
- **“YPbPr”:** Used to describe the color space for progressive-scan (non-interlaced) component video.

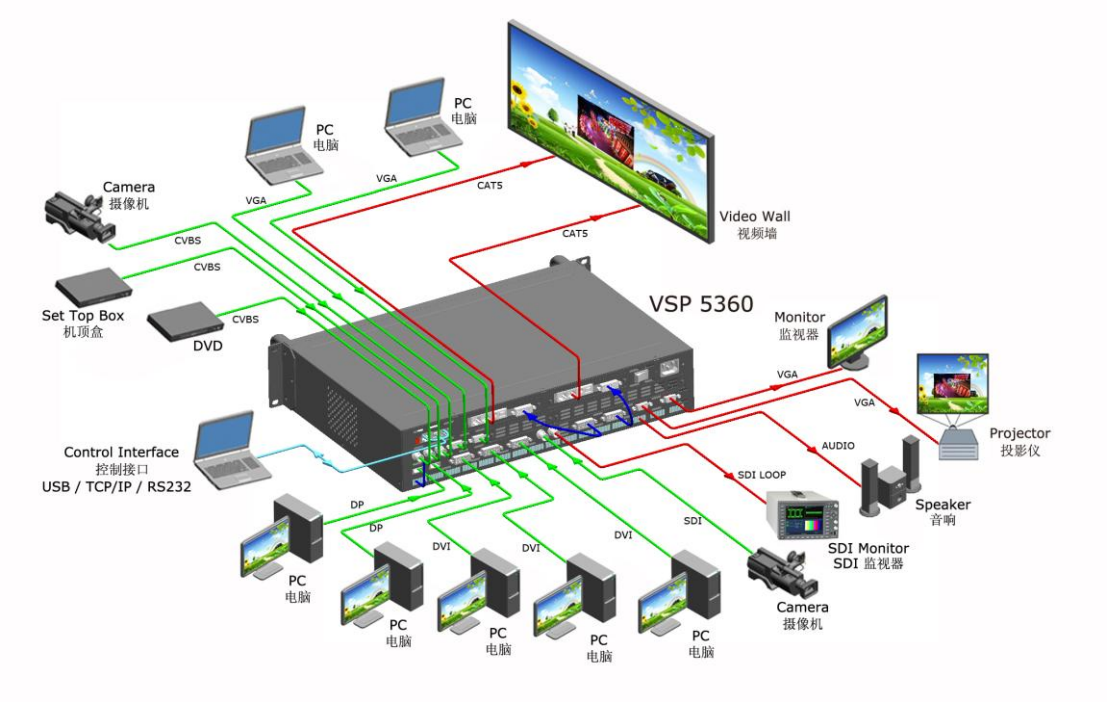
System Overview

VSP 5360 is a 4-layer, 14 inputs seamless switcher that accepts a wide variety of video signals, including RGB, computer-video, and HDTV. VSP 5360 has multiple cascade capacity for sync mapping if the display is beyond one can support. It combines truly seamless, glitch-free switching with advanced scaling technology producing high quality, high resolution video presentations. The VSP 5360 offers a wide range of transition effects, such as full screen, dissolves and wipes with adjustable durations. It also provides multi-window operation, pixel-to-pixel configuration, and multiple user modes and control methods.

The VSP 5360 is delivers advanced capabilities for high-end presentation environments.

Application Questions

RGBlink offers solutions to demand technical problems. Any application questions, or required further information, please contact with our Customer Support Engineers. Refer to Appendix B for contact details.



2. Hardware Orientation

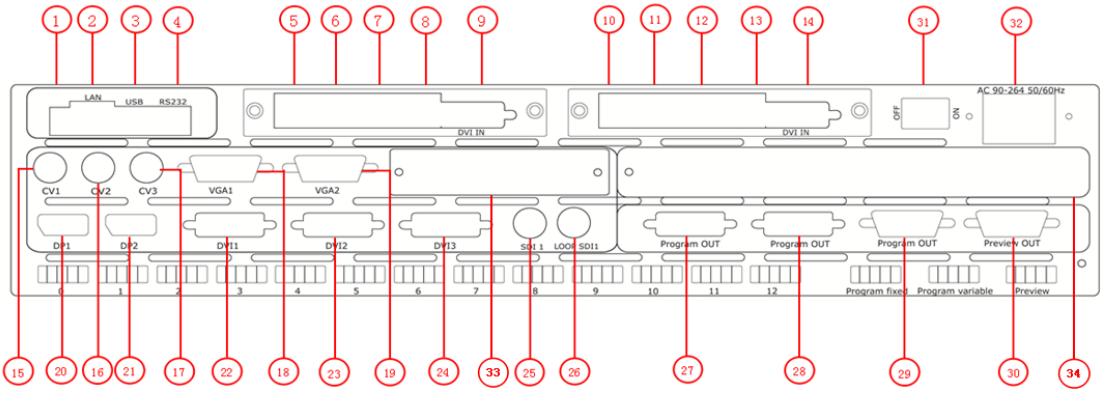
In This Chapter

This chapter provides detailed information about the VSP 5360 hardware. The following topics are discussed:

- VSP 5360 Back Panel
- VSP 5360 Front Panel

VSP 5360 Back Panel

The figure below illustrates the professional interface and control signals of VSP 5360 back panel.



NO	INTERFACE	NO	INTERFACE
1	Dial Switch	22.23.24	DVI Input
2.5.6.10.11	10/100M Interface RJ45	25	SDI Input
3	USB Interface	26	SDI Loop Out
4	RS232 Interface	27.28.29	Program Output
7.12	Power supply port of Sending Card	30	Preview Output
8.13	USB Control Port of Sending Card	31	Switch
9.14	DVI input port of sending card	32	Power IEC-3 port
15.16.17	CVBS Input BNC port	33	S. V. D. U Optional Module
18.19	VGA Input	34	Genlock Optional Module
20.21	Displayport Input		

CONT Interface

1. Dial Switch

If the two dial switches are upwards, the device is in normal work, and if they are downwards, the device is in upgrade state.

2. 10/100M UDP Interface

Used to connect the computer for control or device upgrade.

3. USB Interface

Remote communication device controls interface, and is used to connect the computer.

4. RS232 Interface

Used to connect the computer for control or device upgrade.

INPUT Interface

It includes 3 CVBS (BNC port), 2 VGA (DB15port), 3 DVI-I(compatible with the HDMI input), 2 Displayport and 1 3G SDI input.

15.16.17：CVBS Input

CVBS input. Can receive standard video signal from players, cameras etc. Input supports resolution 480i and 576i via BNC. Support standards include: PAL, NTSC and SECAM.

18.19：VGA Input

VGA Interface input the video signal from HD player and Computer, etc. input signal via the DB15 interface.

20.21：Displayport Input

Input the video signal from HD player, computer, input signal via displayport interface.

22.23.24：DVI Input

DVI input interface: Input the video signal from computer, DVI signal generator. Connect to the same DVI interface on VSP 5360.

(This Connection does not support hot-plugging).

Note

DVI-I is compatible with HDMI.

25：3G SDI Input

Can receive video signal from HD player, and HD camera, connect interface 16 via 75 ohms BNC port. Connect LED screens via network cable.

26：SDI Loop Out

DVI loop out, can connect the next level VSP 5360 or the device with DVI loop out.

Note

Interface 25 and 26 is SDI input and SDI loop out, S optional module.

27. 28. 29：Program Output

Program output interface can connect with next displayer or send signal to LED through sending card. Output signals are through DVI-I.

30：Preview Output

Preview: Outputs can be programmed as preview output, VGA outputs are set as preview.

OUTPUT

5.6.10.11: 10/100M Interface RJ45

Gigabit copper port, used to connect LED screen.

7.12：Power Supply Port of Sending Card

Power has been already supplied by video processor itself, no external power supply needed.

8.13：USB Control Port of Sending Card

18.19：VGA Output

Connect to the monitor or LED screen which has VGA interface

(This DVI connector does not support hot-plugging).

Switch and Power

31.32：Power Interface and Switch

AC 85-264V 3.8A 50/60Hz IEC-3 Power Interface.

33: S. V. D. U Optional Module

Compatible with SDI, VGA, DVI or USB optional module. SDI optional module includes 2 3G SDI input and 2 SDI loop out. VGA optional module includes 2 VGA input (DB15port), DVI optional module includes 2 DVI-I (compatible with HDMI) input, and USB optional includes 2 USB input.

3G SDI Input (S Optional Module)

3G SDI Input: Can receive video signal from HD player, and HD camera, connect interface 16 via 75 ohms BNC port. Connect LED screens via network cable.

SDI Loop Out (S Optional Module)

DVI loop out: Can connect the next level VSP 5360 or the device with DVI loop out.

VGA Input (V Optional Module)

VGA Interface: Input the video signal from HD player and Computer, etc. input signal via the DB15 interface.

DVI Input (D Optional Module)

DVI input interface: Input the video signal from computer, DVI signal generator. Connect to the same DVI interface on VSP 5360.

(This Connection does not support hot-plugging).

Note

DVI-I is compatible with HDMI.

USB Input (U Optional Module)

USB input interface: Can access the USB device or mobile hard disk with USB storage function. Support image formats: JPGE, BMP, PNG. Support video formats: MP4, MPEG1, MPEG2, RMVB, MJPG.

34: Genlock Optional Module

Including 1 Genlock input and 4 DVI-I(compatible with HDMI) Output.

Genlock Input (G Optional Module)

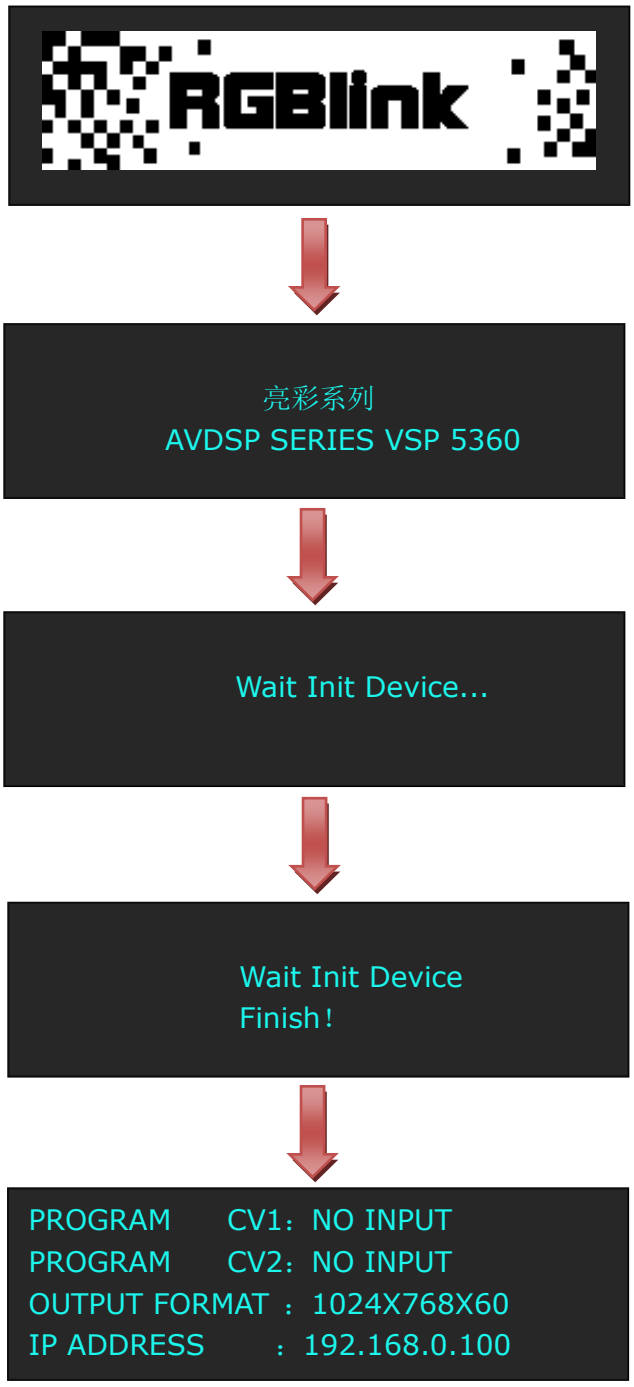
Genlock Input: Can receive video signal from HD player, and HD camera, connect interface 16 via 75 ohms BNC port. Connect LED screens via network cable.

DVI Output

DVI output: Output HDMI or DVI signal. Connect to the next display system or LED display via sending card. Mainly use for LED display mapping.

VSP 5360 Front Panel

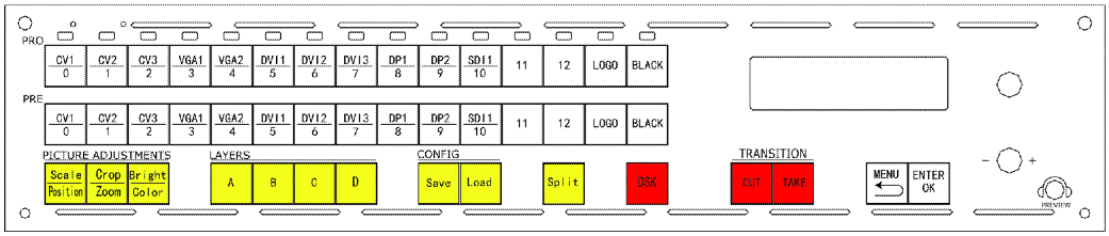
Insert power cord and push power to ON position. LCD module on the front panel will show RGBlink and go into self verification before it load last setting and send processed image to the target monitor. For the first setup, CV1 input is default source. With front panel keyboard, user can operate VSP 5360 through the menus on LCD panel.



2. Hardware Orientation

VSP 5360 Front Panel

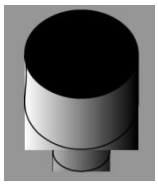
VSP 5360 front panel is as following:



LCD Panel

Used to show button menu and menus for interactive communication.

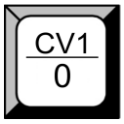
Menu Buttons



Used to adjust LCD menu and information interaction and with the same function with Enter to confirm current options.

Used to adjust volume.

Signal Keys



CV1 input selection Button, its LED light turns on, output will be switched to this channel.

CV2 input selection Button, its LED light turns on, output will be switched to this channel.

CV3 input selection Button, its LED light turns on, output will be switched to this channel.

VGA1 input selection Button, its LED light turns on, output will be switched to this channel.

2. Hardware Orientation

VSP 5360 Front Panel

VGA2 input selection Button, its LED light turns on, output will be switched to this channel.

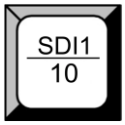
DVI1 input selection Button, its LED light turns on, output will be switched to this channel.

DVI2 input selection Button, its LED light turns on, output will be switched to this channel.

DVI3 input selection Button, its LED light turns on, output will be switched to this channel.

DP1 input selection Button, its LED light turns on, output will be switched to this channel.

DP2 input selection Button, its LED light turns on, output will be switched to this channel.



SDI1 input selection Button, its LED light turns on, output will be switched to this channel.

Function Keys

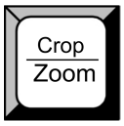
Push LOGO button in PRE bar, preview will display LOGO if there are any LOGO, if not, the preview display black screen, user should enter the menu for LOGO capture.

BLACK switch button, push the button, its LED light turns on, program output will switch to BLACK.

2. Hardware Orientation

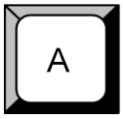
VSP 5360 Front Panel

Scale and Position function reuse button. Push the button to enter to Scale mode. Push the button again to enter to Position mode. Push MENU to exit.

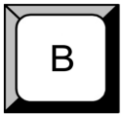


Crop and Zoom function reuse button. Push the button to enter to Crop mode. Push the button again to enter to Zoom mode. Push MENU to exit.

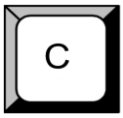
Bright and Color function multiplexing button. Push the button to enter to Bright mode. Push the button again to enter to Color mode. Push MENU to exit.



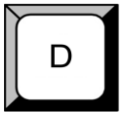
A: Layer A. The button lights and flashes means being selected and can be edited.



B: Layer B. The button lights and flashes means being selected and can be edited.



C: Layer C. The button lights and flashes means being selected and can be edited.



D: Layer D. The button lights and flashes means being selected and can be edited.

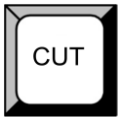
Save Button, push the button to save the parameters. User can save to save 0 to save 12, VSP 5360 supports 13 kinds of saving modes at present. For more details, please refer to How to Save the Parameter.

Load Button, push the button to load the parameters. User can load from save 0 to save 12, VSP 5360 supports 13 kinds of saving modes at present. For more details, please refer to How to Load the Saved Parameter.

2. Hardware Orientation

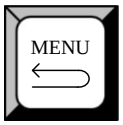
VSP 5360 Front Panel

DSK function keys, it is only support DVI3 input at present.



Seamless Cut Switching Button. Push the button to cut the Preview to Program.

Seamless Fade In Fade Out Switching Button. Push the button to fade in fade Out the Preview to the Program.



Menu and Exit function keys. Push the button, and enter to the system menu or return to the last level menu. Rotate the knob to choose menu and push it to confirm and setup. For more details, please refer to MENU part.

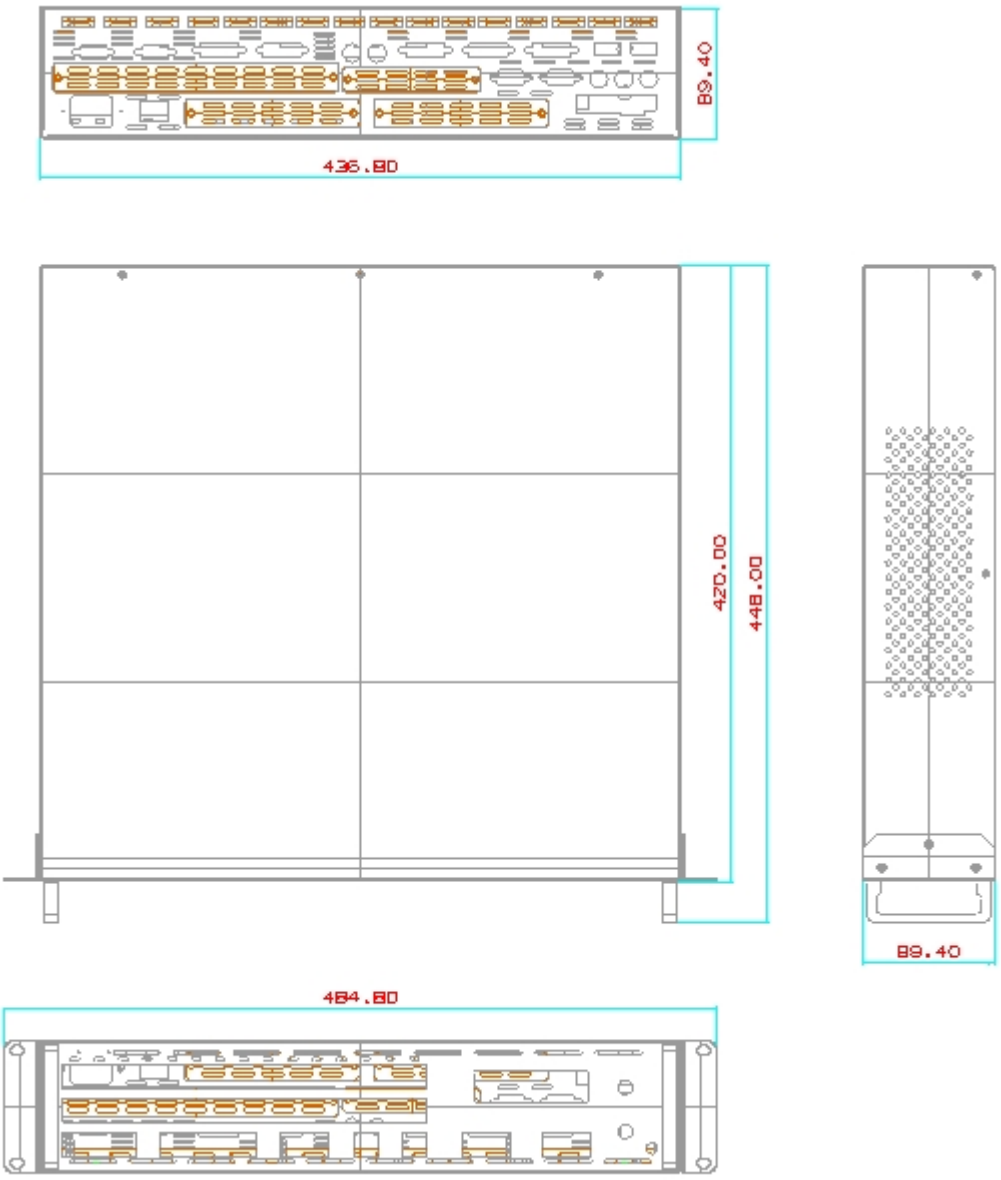
Confirm Button.

3. Hardware Installation

In This Chapter

This chapter provides comprehensive installation instruction for VSP 5360 hardware.

Following is the size of VSP 5360 for your reference.



Safety Precautions

For all VSP 5360 processor installation procedures, please observe the following important safety and handling rules to avoid damage to yourself and the equipment.

- To protect users from electric shock, ensure that the chassis connects to earth via the ground wire provided in the AC power Cord.
- The AC Socket-outlet should be installed near the equipment and be easily accessible.

Unpacking and Inspection

Before opening VSP 5360 process shipping box, inspect it for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments. As you open the box, compare its contents against the packing slip. If you find any shortages, contact your sales representative.

Once you have removed all the components from their packaging and checked that all the listed components are present, visually inspect the system to ensure there was no damage during shipping. If there is damage, notify the shipping carrier immediately for all claims adjustments.

Site Preparation

The environment in which you install your VSP 5360 should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

4. Menu Orientation

In This Chapter

This chapter describes all VSP 5360 processor menus, including how they are accessed, the functions that are available, and descriptions of each menu tree (in block diagram format).

The following topics are discussed:

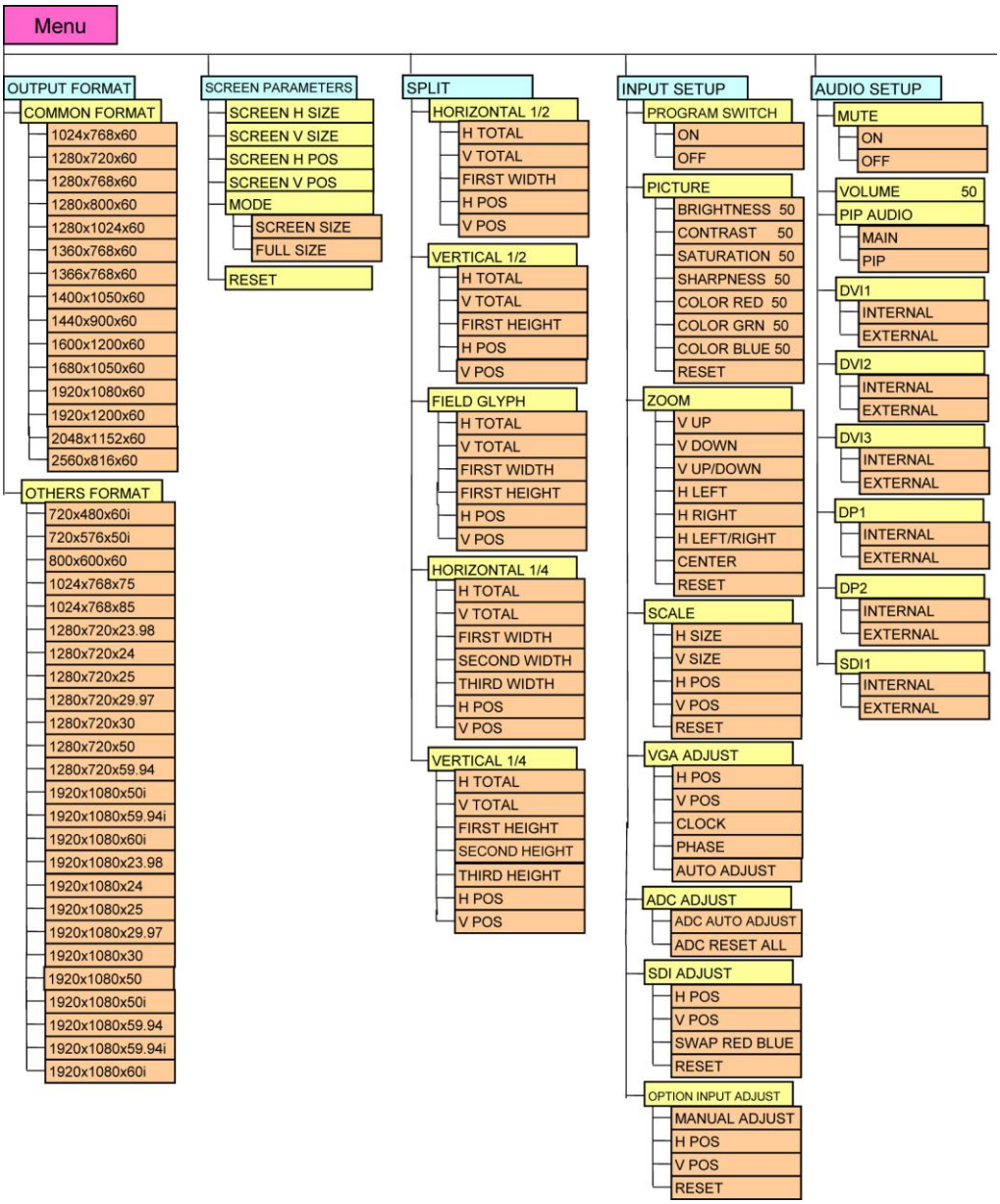
- **MENU**
  - OUTPUT FORMAT
  - SCREEN PARAMETERS
  - SPLIT
  - INPUT SETUP
  - AUDIO SETUP
  - SYSTEM
  - LANGUAGE 语言
  - FACTORY RESET

4. Menu Orientation

MENU

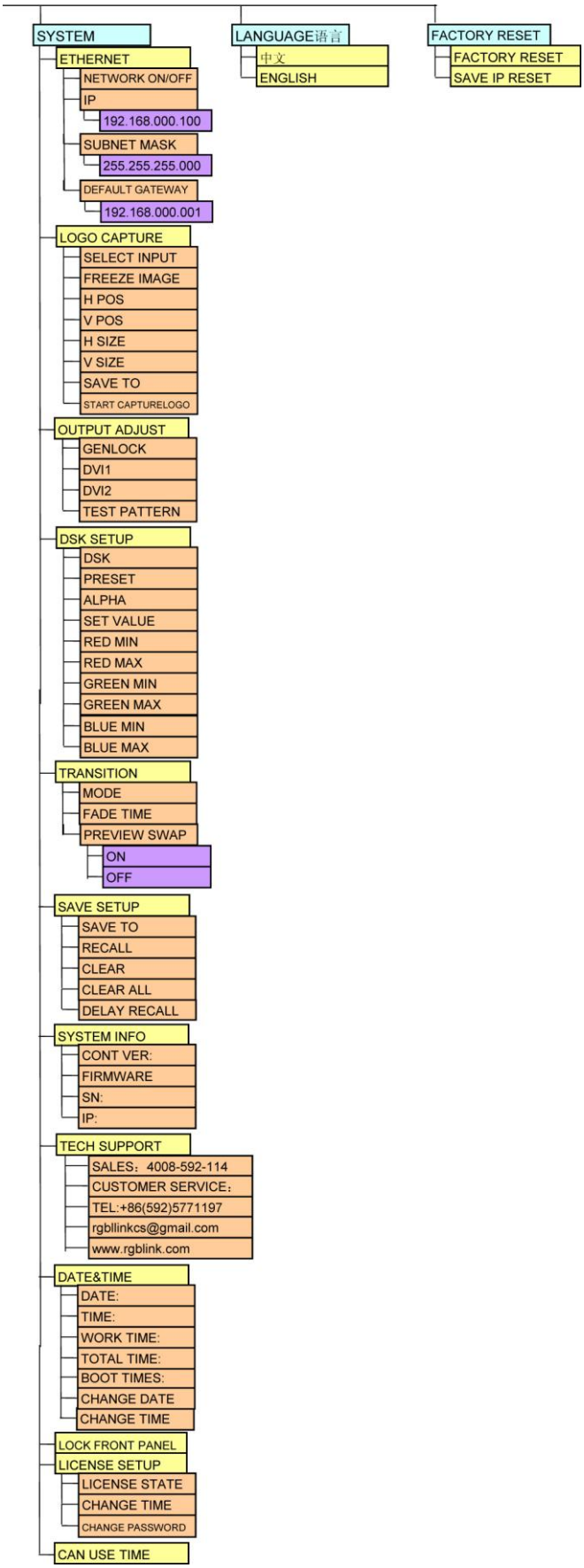
MENU

Push **MENU** button to enter the menu item, shown as below. Push the knob to select the menu item. “>” before the menu means it is in selected state. Push the knob to enter corresponding setting or view the menu.



4. Menu Orientation

MENU



4. Menu Orientation

MENU

OUTPUT FORMAT

Push [MENU] button, OLED shows the menu, rotate the knob and select <OUTPUT FROMAT>, push the knob to confirm, show level 2 menus as follows:

COMMON FORMAT: Rotate the knob, and choose the different resolutions, there are 16 kinds of common resolutions, show as follows:

1024×768×60, 1280×720×60, 1280×768×60, 1280×800×60, 1280×1024×60, 1360×768×60, 1366×768×60, 1400×1050×60, 1440×900×60, 1600×1200×60, 1680×1050×60, 1920×1080×60, 1920×1200×60, 2048×1152×60, 2560×816×60.

OTHER FORMAT：There are 25 kinds of other resolutions, show as follows:

720×480×60i, 720×576×50i, 800×600×60, 1024×768×75, 1024×768×85, 1280×720×23.98, 1280×720×24, 1280×720×25, 1280×720×29.97, 1280×720×30, 1280×720×50, 1280×720×59.94, 1920×1080×50i, 1920×1080×59.94i, 1920×1080×60i, 1920×1080×23.98, 1920×1080×24, 1920×1080×25, 1920×1080×29.97, 1920×1080×30, 1920×1080×50, 1920×1080×50i, 1920×1080×59.94, 1920×1080×59.94i, 1920×1080×60i.

SCREEN PARAMETERS

Push [MENU] button, OLED shows the menu, rotate the knob and select <SCREEN PARAMETERS>, push the knob to confirm, show level 2 menus as follows:

SCREEN H SIZE: Width setting.

SCREEN V SIZE: Height setting.

SCREEN H POS: Screen horizontal position setting.

SCREEN V POS: Screen vertical position setting.

MODE: User can choose screen size or full size.

RESET: If quality image distorts by mistake in improper operation, it can be

initialized operation to recover factory setting.

For more details, please refer to: How to Set up the Screen Parameter.

SPLIT

Push [MENU] button, OLED shows the menu, rotate the knob and select <SPLIT>, push the knob to confirm, there are 5 kinds of split modes, shown as follows:

HORIZONTAL 1/2: User can set H total, V total, first width, H pos and V pos.

VERTICAL 1/2: User can set H total, V total, first height, H pos and V pos.

FIELD GLYPH: User can set H total, V total, first width, first height, H pos and V pos.

HORIZONTAL 1/4: User can set H total, V total, first width, second width, third width, H pos and V pos.

VERTICAL 1/4: User can set H total, V total, first height, second height, third height, H pos and V pos.

INPUT SETUP

Push [MENU] button, OLED shows the menu, rotate the knob and select <INPUT SETUP>, push the knob to confirm, show the level 2 menu as follows:

PROGRAM SWITCH: User can choose ON/OFF to open or close the function.

PICTURE: Picture setting, the sub-menu as following:

BRIGHTNESS: It can change the image color BRIGHTNESS via BRIGHTNESS Settings.

CONTRAST: It can change the image color CONTRAST via CONTRAST settings.

SATURATION: It can change the image color SATURATION via SATURATION Settings.

4. Menu Orientation

MENU

SHARPNESS: It can change the image color SHARPNESS via SHARPNESS Settings.

COLOR RED: It can change the image color Red via Red Settings.

COLOR GREEN: It can change the image color Green via Green Settings.

COLOR BLUE: It can change the image color Blue via Blue Settings.

Note

Non-professionals are not suggesting above operations.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

ZOOM：Push [MENU] button, OLED shows the menu, rotate the knob and select <ZOOM>, push the knob to confirm, OLED shows as follows:

V UP: Enlarge the image from the bottom.

V DOWN: Enlarge the image from the top.

V UP/DOWN: Enlarge the image to the top and bottom.

H LEFT: Enlarge the image from the right.

H RIGHT: Enlarge the image from the left.

H LEFT/RIGHT: Enlarge the image to the left and right.

CENTER: Enlarge the image to the center.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

For more details, please refer to: How to Zoom the Image.

SCALE：Push [MENU] button, OLED shows the menu, rotate the knob and select <SCALE>, push the knob to confirm, OLED shows as follows:

H SIZE: Width setting.

V SIZE: Height setting.

H POS: Horizontal position setting.

V POS: Vertical position setting.

4. Menu Orientation

MENU

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

For more details, please refer to: How to Scale the Image.

Note

The Scale/Position button can also fulfill this setting.

VGA ADJUST: Adjust the H POS, V POS, CLOCK, PHASE when input VGA signal. It also can use the AUTO ADJUST to adjust.

ADC ADJUST：Auto adjust the ADC. If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

SDI ADJUST: Adjust the H POS, V POS when input SDI signal, user can also open or close the “SWAP RED BLUE” function.

If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

OPTION INPUT ADJUST: User can choose “MANUAL ADJUST” function. And adjust the H POS and V POS.

If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

AUDIO SETUP

Push [MENU] button, OLED shows the menu, rotate the knob and select <AUDIO SETUP>, push the knob to confirm, show the level 2 menu as follows:

MUTE: Mute, user can choose ON/OFF to open or close this function.

VOLUME: Volume adjustment.

PIP AUDIO: Can choose audio input source for IMAGE A main image or IMAGE B sub-image.

DVI1: Can choose DVI1 audio as INTERNAL embedded audio or EXTERNAL audio.

DVI2: Can choose DVI2 audio as INTERNAL embedded audio or

EXTERNAL audio.

DVI3: Can choose DVI3 audio as INTERNAL embedded audio or EXTERNAL audio.

DP1: Can choose DP1 audio as INTERNAL embedded audio or EXTERNAL audio.

DP2: Can choose DP2 audio as INTERNAL embedded audio or EXTERNAL audio.

SDI1: Can choose SDI1 audio as INTERNAL embedded audio or EXTERNAL audio.

SYSTEM

Push [MENU] button, OLED shows the menu, rotate the knob and select <SYSTEM>, press the knob to confirm, show the level 2 menu as follows:

ETHERNET: Network setting, including:

NETWORK ON/OFF: Can choose “ON” or “OFF”.

IP ADDRESS: 192.168.000.100.

SUBNET MASK: 255.255.255.000.

GATEWAY: 192.168.000.001.

LOGO CAPTURE: Operations are as follows:

1. Choose the input source.
2. Freeze image, when capture, the program image should be frozen.
3. Set the image horizontal position, vertical position, horizontal size and vertical size.
4. Save the image to LOGO1 or LOGO2.
5. Start to capture LOGO.

OUTPUT ADJUST: Settings are as follows:

GENLOCK: User can open or close genlock.

DVI1 setting as follows:

OUTPUT: User can choose PROGRAM or PREVIEW.

4. Menu Orientation

MENU

DVI MODE: Can select HDMI agreement or DVI; by default is DVI output, When need HDMI signal output, choose HDMI.

DATE RANGE: DVI1 out range adjustment can choose RGB or YCBCR; among them the RGB adjusting range is between 0-255, YCBCR adjusting range from 16 to 235.

DE ADJUST: DE adjust, the sub-menu as following:

DE ON/OFF: Can choose to open or close, when choose open, it can be adjusted to DE, as follows:

H SIZE: Width setting.

V SIZE: Height setting.

H Pos: Horizontal phase setting.

V Pos: Vertical phase setting.

When the signal source of the screen appear black side, can use this function adjustment, make the image to full screen display.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

DVI2: The operations are the same with DVI1.

TEST PATTERN, including program out TP and preview out TP.

DSK SETUP: DSK function, settings as follows:

DSK: Can select “ON” or “OFF”, OFF is the default state.

PRESET: Can preset value of the following functions, and total 13 modes:

User: User mode.

WhOnBk1: White On Black 1.

WhOnBk2: White On Black 2.

BkOnWh1: Black On White 1.

BkOnWh2: Black On White 2.

GrnOnBk1: Green On Black 1.

GrnOnBk2: Green On Black 2.

GrnOnWh1: Green On White 1.

4. Menu Orientation

MENU

GrnOnWh2: Green On White 2.

RedOnBk1: Red On Black 1.

RedOnBk2: Red On Black 2.

RedOnWh1: Red On White 1.

RedOnWh2: Red On White 2.

ALPHA: It can set the image transparency, regulating range between 0 - 128.

SET VALUE:

INSIDE: In image 2, if the pixel value is higher than the setting value, then the image is the graphic content pixel, otherwise, it is the graphic background pixel.

OUTSIDE: In image 2, if the pixel value is lower than the setting value, then the image is the graphic content pixel, otherwise, it is the graphic background pixel.

RED: Red limit, cut-off point condition of INSIDE and OUTSIDE condition in red channel, the range is 0 ~ 255.

GREEN: Green limit, cut-off point condition of INSIDE and OUTSIDE condition in green channel, the range is 0 ~ 255.

BLUE: Blue limit, cut-off point condition of INSIDE and OUTSIDE condition in blue channel, the range is 0 ~ 255.

For more details, please refer to: How to Realize DSK Setting.

TRANSITION: Settings are as follows:

MODE: There are 2 kinds of modes, cut and fade.

FADE TIME: 0~1.0S.

PREVIEW SWAP: User can choose “ON” or “OFF” to open or close this function.

SAVE SETUP: Settings are as follows:

SAVE TO: User can save the parameter to SAVE0 to SAVE12.

RECALL: User can load the saved parameters from SAVE0 to SAVE12.

4. Menu Orientation

MENU

CLEAR: Clear one save mode.

CLEAR ALL: Clear all save modes.

DELAY RECALL: User can set the delay recall time, range from 0-255S.

SYSTEM INFO: System information, including CONT VER, FIRMWARE, SN and IP address.

TECH SUPPORT: Including:

SALES HOTLINE.

AFTER-SALE SERVICE.

TEL: Phone of technology support.

WEB SITE: Company web site of technology support.

EMAIL: Email of technology support.

DATE&TIME: Display date or time.

DATE: Display date.

TIME: Display time.

WORK TIME: Display the working time from boot to present.

TOTAL TIME: Total working time.

BOOT TIMES: Boot times.

CHANGE DATE.

CHANGE TIME.

LOCK FRONT PANEL: In order to avoid the wrong operations, user can lock front panel.

LICENSE SETUP: The device will not work if excess the prescribed time, there are no signal output, it needs to input password and modify the using time to continue to work.

CAN USE TIME: Display the rest of the working time.

LANGUAGE 语言

User can choose Chinese or English according to their needs to operate the interface more quickly.

4. Menu Orientation

MENU

FACTORY RESET

Enter FACTORY RESET to reset the IP, push the knob to confirm, and VSP 5360 is reset to its factory settings. After 5 seconds, it completes factory settings and is ready for more operations.

5. System Setup and Operations

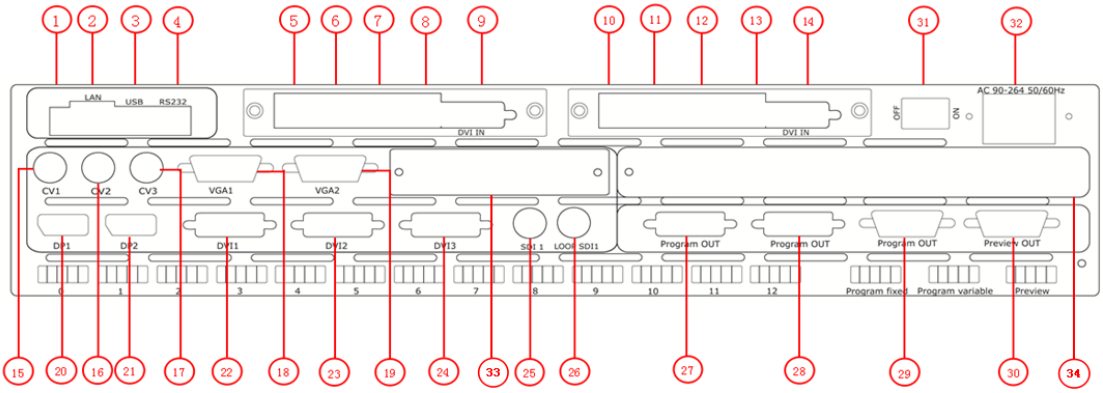
In This Chapter

This chapter provides comprehensive instructions for system setup and operations. The following topics are discussed:

- Interface and Input Signal Option
- How to Realize Single Image Switching
- How to Add or Clear the Layer
- How to Scale the Image
- How to Zoom the Image
- How to Set up the Position of the Image
- How to Crop the Image
- How to Realize the LOGO Capture
- How to Use Black
- How to Set up the Screen Parameter
- How to Realize DSK Setting
- How to Save the Parameter
- How to Load the Saved Parameter

Interface and Input Signal Option

The figure below illustrates the professional interface and control signals of VSP 5360 back panel.

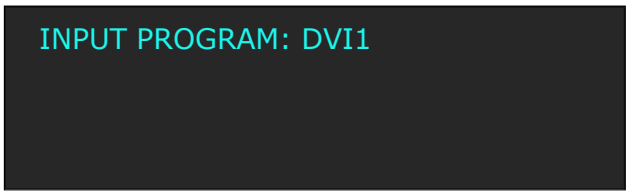


NO	INTERFACE	NO	INTERFACE
1	Dial Switch	22.23.24	DVI Input
2.5.6.10.11	10/100M Interface RJ45	25	SDI Input
3	USB Interface	26	SDI Loop Out
4	RS232 Interface	27.28.29	Program Output
7.12	Power supply port of Sending Card	30	Preview Output
8.13	USB Control Port of Sending Card	31	Switch
9.14	DVI input port of sending card	32	Power IEC-3 port
15.16.17	CVBS Input BNC port	33	S. V. D. U Optional Module
18.19	VGA Input	34	Genlock Optional Module
20.21	Displayport Input		

Connect the power cord, input and output cables and other control cables to the corresponding interfaces according to the figure above.

How to Realize Single Image Switching

Boot the system default CV1 to the current input source (key flashes), if need seamless switching other source such as DVI1, direct push DVI1 key, OLED screen display as follows:



Choose DVI1 buttons, CV1button is off, and DVI1 key lights, single image switching (that is switch CV1 to DVI1) is finished. The same method for CV2, CV3, VGA1, VGA2, DVI1, DVI2, DVI3, DP1, DP2, SDI1 input signal switching.

How to Add or Clear the Layer

In EFFECTS area, add the layer according to actual need, that is push any key of layer A, B, C, D (or select all the 4 keys), key lights and flashes means the layer is selected, and add layer finished.

For example, add layer B, layer B key lights and flashes, LCD panel shows as follows:

In EFFECTS area, push any key of layer A, B, C, D that need to clear, key flashes.

Push the key again, key light is off, and clear layer finished.

For example, clear layer B, LCD panel shows as follows:

How to Scale the Image

Push [Scale/Position] button, and enter the SCALE menu, button 0-9 lights are on, user can input the number or rotate the knob to set the vertical size and horizontal size.

SCALE menu are as follows:

H SIZE: Width setting.

V SIZE: Height setting.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

How to Zoom the Image

Image vertical and horizontal zoom, the effect can stretch the image according to one direction.

Push [MENU] button, and enter the menu item, rotate the knob and choose [INPUT SETUP], push the knob to confirm and choose <ZOOM>, push the knob to confirm, settings are as follows:

V UP: Enlarge the image from the bottom.

V DOWN: Enlarge the image from the top.

V UP/DOWN: Enlarge the image to the top and the bottom.

H LEFT: Enlarge the image from the right.

H RIGHT: Enlarge the image from the left.

H LEFT/RIGHT: Enlarge the image to the left and the right.

CENTER: Enlarge the image from the center.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

Note

The [Crop/Zoom] button can also fulfill this setting.

How to Set up the Position of the Image

1. Push [Scale/Position] button two times, the button lights, user can set up the position of the image.

2. Rotate the knob, and adjust the vertical and horizontal position.
3. If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.
4. Push any other button, [Scale/Position] button light is off, and close the position setting function.

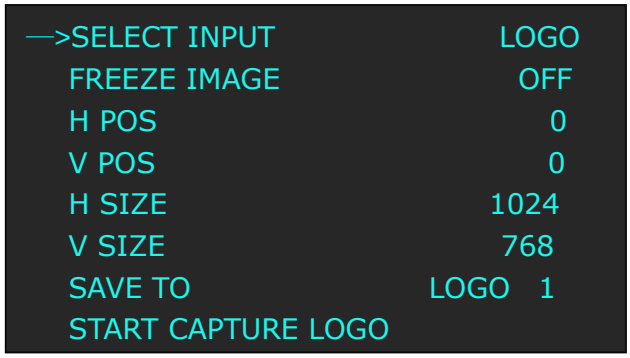
How to Crop the Image

1. Push [Crop/Zoom] button, the button lights, user can crop the image.

2. Rotate the knob to crop H LEFT, V UP, H RIGHT, V DOWN of the image according to actual need.
3. If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.
4. Push any other button, [Crop/Zoom] button light is off, and close crop the image function.

How to Realize the LOGO Capture

1. Push [MENU] button and enter the menu item, rotate the knob, and Select [LOGO CAPTURE] option, OLED shows as follows:



2. Choose the input source.
3. Freeze image, when capture LOGO, the program image should be frozen.
4. Set the LOGO horizontal position, vertical position, horizontal size and vertical size.
5. Save the image to LOGO1 or LOGO2.
6. Start to capture LOGO.

Note

The LOGO Button can also fulfill this setting.

How to Use Black

BLACK description:

BLACK signal realizes one-key-touch to a black screen.

VSP 5360 BLACK provides effect processing on Program output and Preview output, BLACK uses fade in fade out effect. Operations are as follows:

1. Choose output signal.
2. Push BLACK button, the button lights.
3. Then push TAKE button, then output switch to black with fade in fade out effect, as shown below:

How to Set up the Screen Parameter

Push MENU button, rotate the knob and choose [OUTPUT FORMAT] option.

The setting of screen is according to the LED size, and is applied to single image. For example, the LED size is1408 x 832.

First, choose the resolution that most close to 1408 x 832 or larger than 1408 x 832, which ensures that all image can displayed on the LED screen.

Push [MENU] button, OLED show the menu, rotate the knob and choose [SCREEN PARAMETERS], push the knob to confirm, settings are as follows:

SCREEN H SIZE: Input number 1408.

SCREEN V SIZE: Input number 832.

SCREEN H POS: Initial parameters is 0, need not set if image is not migration.

SCREEN V POS: Initial parameters is 0, need not set if image is not migration.

MODE: User can choose full size or screen size.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

How to Realize DSK Setting

Before DSK setting, please check the DSK input, currently, DSK input only support DVI3 input, settings are as follows:

1. Push [DVI3] button, and make sure there is input signal, and OLED shows DVI3 signal.
2. Set the size and position of [DVI3]. Push [DVI3] button in Preview area, the button light is on, and the image can be edited, push [SCALE] button to set the size.

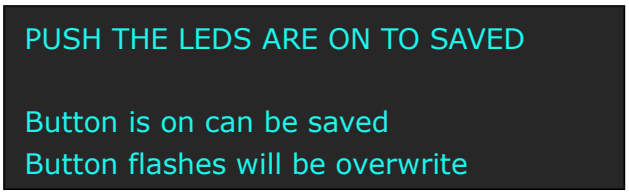
3. Choose the input signal in Preview area.
4. Push [DSK] button, and start the DSK function.

Rotate the knob and choose <PRESET>, press the knob to confirm, choose the preset mode of DVI3, for example, WhOnBk2, press the knob to confirm.

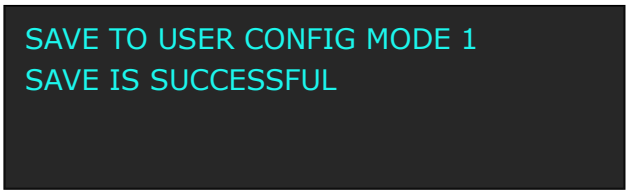
5. Push [SAVE] button, and save the above settings.

How to Save the Parameter

Save user mode to the customer for different scene directly call, leave out the edit operation inconvenience, VSP 5360 provides 13 save preferences. Push [SAVE] button, the keys light, OLED shows related save information, operate according to the prompt information.

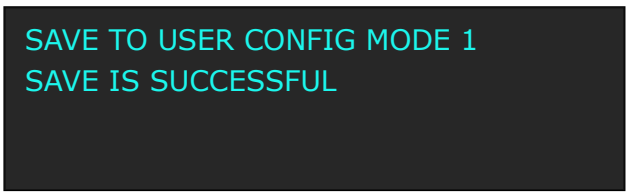


Some of the buttons 0-12 in PRE area are on, and some flash. The buttons on mean there are no save information. Push the button on to save, for example, button 1, OLED shows as follows:



User can also push [MENU] button to enter the menu item, and choose [SYSTEM] option, rotate the knob and choose <SAVE TO>, show as follows:

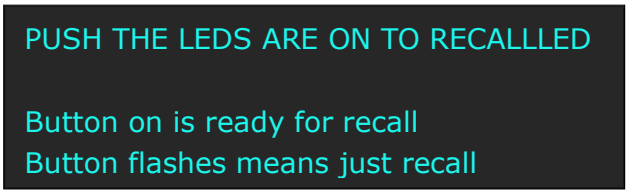
Push the knob to confirm. Rotate the knob again, and choose the save mode, for example, save to mode1, OLED shows as follows:



How to Load the Saved Parameter

Save user mode to the customer for different scene directly call, leave out the edit operation inconvenience, VSP 5360 provides 13 save preferences. Push LOAD button, the key lights, OLED shows related load information, operate according to the prompt information.

Some of the number buttons 0-12 in PRE area are on, some flash and some are off. The buttons on mean there are save information. OLED shows as follows:



Push the button on to load, for example, button 1, OLED shows as follows:

6. Common Questions and Solutions

In This Chapter

This chapter provides the common questions and solution for the video processor. The following topics are provided:

- No Output in LED Display
- Flash Point in LED Display Output
- LED Display only Shows Part of the Image
- No Display in the Second Half Part of LED Display
- All Key Lights Light on Simultaneously

No Output in LED Display

Confirm If There is Any Input Signal

Check whether the input signal is normal, if normal, check the front-end signal lines, and please note to do dual display or extended in computer . User can enter other format signals to view in the same operation.

Confirm If Signal Output

Find a belt VGA input (best for DVI) display, connect to the corresponding output port of processor, and check whether the signal is correct on the monitor. If not display properly, please check whether there is input signal, or if input wire interface is taken tight, output wire interface is picked up tightly. If display normally, check if sending card is normally working or need to replace sending card test.

Flash Point in LED Display Output

Confirm If Monitor Output is Normal

Find a belt VGA input (best for DVI) display, connect to the corresponding output port of processor, and check whether the signal is correct on the monitor. If display normally shows and no flash point, please check whether DVI outlets put tight or replace to DVI line of sending card. If display flashes point, please judge if input signal, wire, and interface are normal.

LED Display Only Displays Part of the Image

Signal Needs to Scale

Push **[Scale/Position]** button in the processor and knob to adjust the actual screen size of the screen, including “H Size”, “V Size” and “Reset”. Push the knob to confirm.

No Display in the Second Half Part of LED Display

Resolution is Insufficient

Please make sure the points of the screen width and height, choose the resolution to be bigger than screen width via push **[MENU]** button to find [OUTPUT FORMAT], and push the knob to confirm.

Sending Card Can not Take Lower Part

TS 802 can control the max horizontal resolution 2048, and vertical resolution 640. Each CAT5 output is 320 pixels.

All Key Lights Light on Simultaneously

Check If Dial Switch is Normal

Shut the power, check if two red dial switches near CV are upward. Reboot if they face down, and reboot. The function of the red dial switched is mainly upgraded.

A. Specification

BNC Input	
Number of Inputs	3
Supported Standards	PAL/NTSC
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75 ohm
Multiplex	480i,576i
VGA DB15 Input	
Number of Inputs	2
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Supported Resolution	VGA-UXGA (800*600@60, 1024*768@60, 1280*1024@60, 1440*900@60,1600*1200@60)
DVI Input	
Number of Outputs	3
Connector	Standard DVI-I socket
Supported Resolution	SMPTE: 625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA: 800×600×60Hz，1024×768×60Hz，1280×768×60Hz，1280×1024×60Hz，1600×1200×60Hz，1920×1080×60Hz
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
DP (Displayport) Input	
Number of Inputs	2
Connector	Standard
Supported Resolution	Support resolution: WQXGA + (1920 x 1200), and color depth: 30/36 bit (each primary 10/12 bit)
Supported Bandwidth	10.8Gb/s
Format Standard	DP1.1
SDI Input	
Number of Inputs	1
Connector	BNC
Supported Standard	ITU-R BT.656,ITU-R BT.601,SMPTE 259M, SMPTE 292, SMPTE 297
Balance	Belden 1694A 100m self-adaptive 3G,200m self-adaptive 1.485G,350m self-adaptive 270Mbps
SDI Loop Out	

Number of Inputs	1
Connector	BNC
Signal Level	800mV±10%
Supported Standard	SMPTE：625/25 PAL， 525/29.97 NTSC，625/50p PAL，525/59.94p NTSC, 720p50，720p59.94/60，1080i50，1080i59.94/60，1080p50，1080p59.94/60
Balance	Belden 1694A 100m self-adaptive 3G,200m self-adaptive 1.485G,350m self-adaptive 270Mbps
Program DVI Output	
Number of Outputs	2
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA: 1024×768×60, 1280×720×60, 1280×768×60, 1280×800×60, 1280×1024×60, 1360×768×60, 1366×768×60, 1400×1050×60, 1440×900×60, 1600×1200×60, 1680×1050×60, 1920×1080×60, 1920×1200×60, 2048×1152×60, 2560×816×60, 720×480×60i, 720×576×50i, 800×600×60, 1024×768×75, 1024×768×85, 1280×720×23.98, 1280×720×24, 1280×720×25, 1280×720×29.97, 1280×720×30, 1280×720×50, 1280×720×59.94, 1920×1080×50i, 1920×1080×59.94i, 1920×1080×60i, 1920×1080×23.98, 1920×1080×24, 1920×1080×25, 1920×1080×29.97, 1920×1080×30, 1920×1080×50, 1920×1080×59.94.
Program VGA Output	
Number of Outputs	1
Connector	Standard DB15 Socket
Supported Resolution	VESA: 1024×768×60, 1280×720×60, 1280×768×60, 1280×800×60, 1280×1024×60, 1360×768×60, 1366×768×60, 1400×1050×60, 1440×900×60, 1600×1200×60, 1680×1050×60, 1920×1080×60, 1920×1200×60, 2048×1152×60, 2560×816×60, 720×480×60i, 720×576×50i, 800×600×60, 1024×768×75, 1024×768×85, 1280×720×23.98, 1280×720×24, 1280×720×25, 1280×720×29.97, 1280×720×30, 1280×720×50, 1280×720×59.94, 1920×1080×50i, 1920×1080×59.94i, 1920×1080×60i, 1920×1080×23.98, 1920×1080×24, 1920×1080×25, 1920×1080×29.97, 1920×1080×30, 1920×1080×50, 1920×1080×59.94.
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level：300mV Sync-tip：0V
Preview VGA Output	

Number of Outputs	1
Connector	Standard DB15 Socket
Supported Resolution	VESA: 1024×768×60, 1280×720×60, 1280×768×60, 1280×800×60, 1280×1024×60, 1360×768×60, 1366×768×60, 1400×1050×60, 1440×900×60, 1600×1200×60, 1680×1050×60, 1920×1080×60, 1920×1200×60, 2048×1152×60, 2560×816×60, 720×480×60i, 720×576×50i, 800×600×60, 1024×768×75, 1024×768×85, 1280×720×23.98, 1280×720×24, 1280×720×25, 1280×720×29.97, 1280×720×30, 1280×720×50, 1280×720×59.94, 1920×1080×50i, 1920×1080×59.94i, 1920×1080×60i, 1920×1080×23.98, 1920×1080×24, 1920×1080×25, 1920×1080×29.97, 1920×1080×30, 1920×1080×50, 1920×1080×59.94.
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level：300mV Sync-tip：0V
VGA Input (Optional Module)	
Number of Inputs	2
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level：300mV Sync-tip：0V
Supported Resolution	VGA-UXGA (800*600@60, 1024*768@60, 1280*1024@60, 1440*900@60,1600*1200@60)
DVI Input (Optional Module)	
Number of Outputs	2
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA：800×600×60Hz，1024×768×60Hz，1280×768×60Hz， 1280×1024×60Hz，1600×1200×60Hz，1920×1080×60Hz
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
SDI Input (Optional Module)	
SDI Input	
Number of Inputs	2
Connector	BNC
Supported Standard	ITU-R BT.656,ITU-R BT.601,SMPTE 259M, SMPTE 292, SMPTE 297

Balance	Belden 1694A 100m self-adaptive 3G,200m self-adaptive 1.485G,350m self-adaptive 270Mbps
SDI Loop Out	
Number of Inputs	2
Connector	BNC
Signal Level	800mV±10%
Supported Standard	SMPTE：625/25 PAL， 525/29.97 NTSC，625/50p PAL，525/59.94p NTSC, 720p50，720p59.94/60，1080i50，1080i59.94/60，1080p50，1080p59.94/60
Balance	Belden 1694A 100m self-adaptive 3G,200m self-adaptive 1.485G,350m self-adaptive 270Mbps
USB Input	
Number of Inputs	2
Connector	Standard USB port
Supported Standard	Image format: JPGE,BMP,PGN Audio format: WMA,MP3,M4A(AAC) Video format: MPEG2,MPEG3, MPEG4,H264, RM,RMVB,MOV,MJPEG, VC1,DivX,FLV
Genlock Optional Module	
Genlock Input	
Number of Inputs	1
Connector	BNC
Genlock Output	
Number of Outputs	4
Connector	Standard DVI-I socket
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Supported Standard	VESA: 800×600×60Hz, 1024×768×60Hz, 1024×768×75Hz, 1280×768×60Hz, 1280×1024×60Hz, 1440×900×60Hz, 1400×1200×60Hz, 1600×1200×60Hz, 1920×1080×60Hz, 1920×1200×60Hz, 2048×1152×60Hz

Function	
Input channel configuration	Support each input channel signal programming configuration
Switch	Support any two inputs fadein fade out

Extras	
Communication	RS232 USB TCP/IP
Power Supply	85-264V IEC-3
Working Environment	0°C~45°C
Stored Environment	10% to 90%
Product Warranty	3-year parts and labor warranty

B. Contact Information

Warranty:

All video products are designed and tested to the highest quality standard and backed by a full 3-year parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. RGBlink warranties are only valid to the original purchase/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modification, lighting strikes, abuse(drop/crush), and/or other unusual damages.

The customer shall pay shipping charges when unit is returned for repair.

Headquarter: S603~604 Weiye Building Torch Hi-Tech Industrial Development Zone Xiamen, Fujian Province, P.R.C.

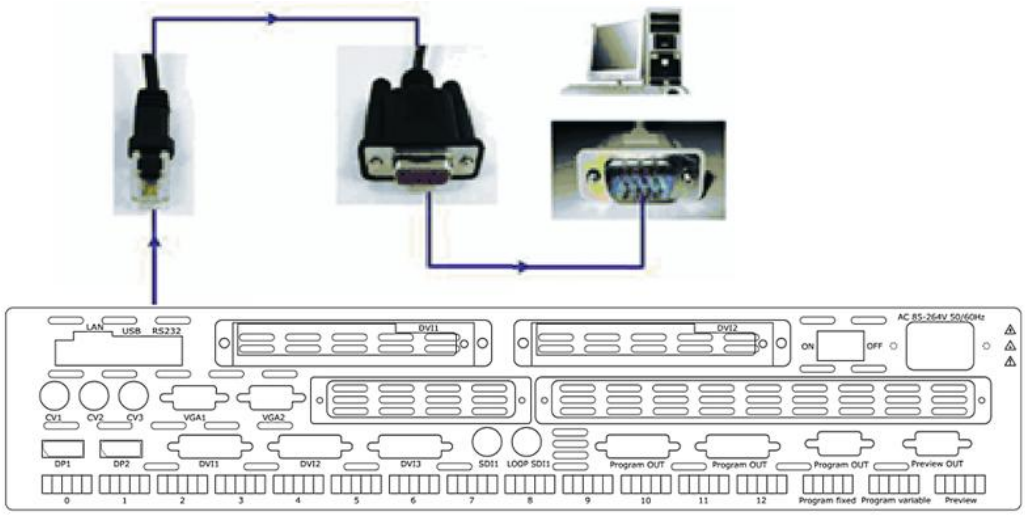
- **Tel:** +86-592-5771197
- **Fax:** +86-592-5771202
- **Websites：**
  - ~ http://www.rgblink.com
  - ~ http://www.rgblink.cn
- **E-mail：** rgblinkcs@gmail.com

C. Software Upgrade

IP Software Download Instruction

Turn off the power, take the two coding switch to “ON” state as below:

Connect one side of the RJ11 download line to the RS232 on the video processor, and the other side being connected to the serial port on the PC.



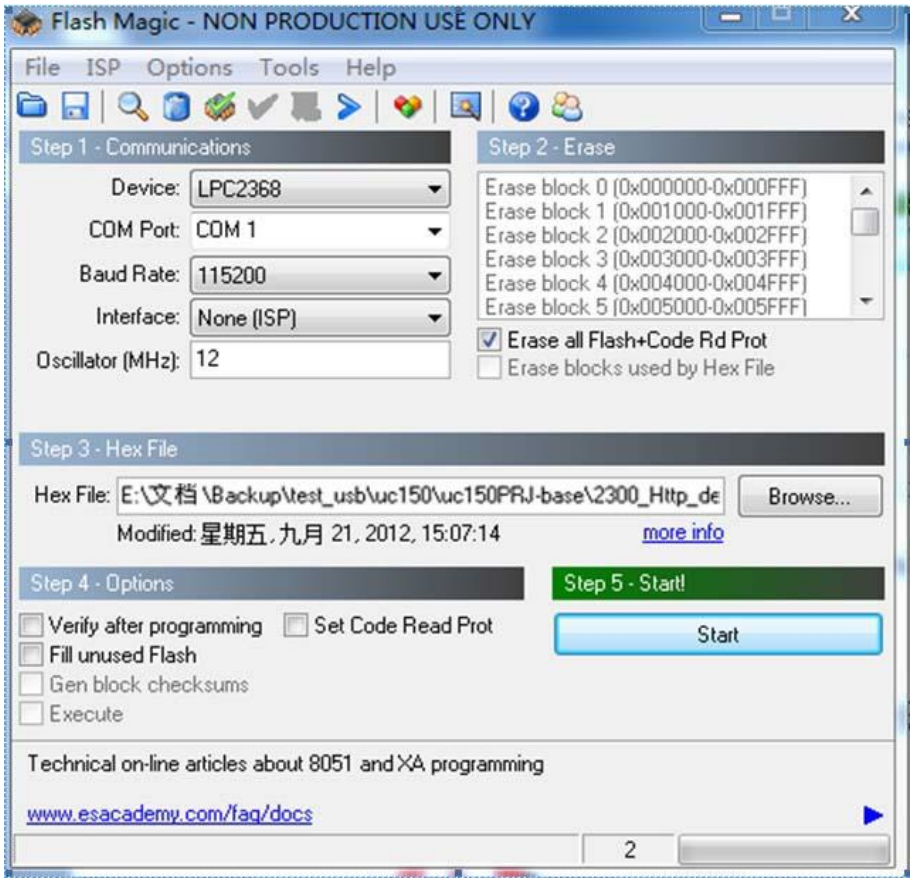
Double click

to run flash magic, setting as below:

Firstly, users can choose the right serial port, set the Boud rate to 9600, choose LPC2368, and to load the aim document (hex file) for IP board upgrading;

Secondly, tick the item below to confirm.

Finally, click the “start” button.



After download, exit the program, turn off the power, tack the two coding switch back, as below restart the equipment power, check if the equipment work normally.

Note

Flash Magic download website: http://www.flashmagictool.com/download.html&d=FlashMagic.exe